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## FOUR NEW SPECIES OF *EUCALYPTUS* L'HÉRIT. FROM SOUTH AUSTRALIA

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### Abstract

Three new species of *Eucalyptus* are described from South Australia: *E. calcareana* from between the southern boundary of the Nullarbor Plateau and the Great Australian Bight, *E. sparsa* from the ranges in the north-west of South Australia and their vicinity, and adjacent ranges in Western Australia, and Northern Territory; and *E. yumbarrana* scattered in the arid west of South Australia. Data are presented for raising *E. oleosa* F. Muell. ex Miq. var. *peeneri* Blakely to specific status. All taxa are illustrated, specimens examined are listed, and the species relationships and ecology discussed.

### 1. *Eucalyptus calcareana* C.D. Boomsma, sp. nov.

Arbor, vel robusta multicaulis lignotubiferque vel parva unicaulisque, plerumque usque 10 m alta, interdum altior; cortice veteri pallide griseo in laciniis longis decorticantibus et corticem laevis, primum subroseum, exponenti; medulla guttas olei continenti. *Plantula* dierum ducentorum *cotyledonibus* reniformis, plerumque ad apicem parum incisuris, *foliis* petiolatis, primis 3-4 paribus decussatis, pare primo elliptico, paribus distalibus ovatis usque ovato-lanceolatis. *Folia adulta* alterna, petiolata, 9-12 x 1.4-2.0 cm petiolo usque 2 cm longo excluso, lamina lanceolata, falcata apice uncinato, ravidovirida, vix nitida; costa in pagina inferiore sulcata; nervatura secundaria reticulata, indistincta; guttis olei copiosis. *Inflorescentiae* umbellae axillares 7-11 florum pedicellarium; pedunculo robusto, angulato, sursum dilatato, 7-10 mm longo; pedicellis manifestis, 2-3 mm longis. *Alabastra* 6-8 x 4-5 mm; operculo hemispherico, obtuse conico, striato-costato, costis nonnullis in torum obconico-pyriformem decurrentibus. *Antherae* plus minusve basifixae, versatiles, obovoideae, loculis distinctis, loculicidis. *Fructus* in pedicello 1-2 mm longo portatus; toro obconico-pyriformi, 5-7 x 5-8 mm, ad basim attenuato, vix costato-striato; disco angusto, introrsum depresso, vix elevato planatove; valvis 4 (5), rimam aequatis vel vix excedentibus, triangularibus, ab obturamento sub dehiscencia liberato obtectis; *seminibus* depressis, convexis, in ambitu late ovato-acutis, rufis, politis, in ca. 20 series areolarum polygonalium sculptis.

*Holotypus*: South Australia, 43 km along Eyre Highway W. of Nundroo, 31° 29' S, 131° 53' E, 11.3.77, G.C. Cornwall (AD).

A robust mallee to small tree, usually to 10 m, occasionally higher, with bark smooth, pinkish-white when freshly exposed by the shedding in short strips of the pale greyish old bark; pith containing oil glands. *Seedling* (at 200 days old): *cotyledons* reniform, usually slightly notched at apex; *leaves* petiolate, first 3-4 pairs decussate, first pair elliptical, subsequent pairs ovate to ovate-lanceolate. *Adult leaves* alternate, petiolate, 9-12 x 1.4-2.0 cm excluding the petiole to 2 cm long, lamina lanceolate, falcate with a hooked apex, greyish-green, scarcely shining; midrib furrowed on lower surface; secondary venation reticulate, indistinct; oil glands copious. *Inflorescences* axillary umbels of 7-11 pedicellate flowers; peduncles robust, angular, dilated upwards, 7-10 mm long; pedicels distinct, 2-3 mm long. *Buds* 6-8 x 4-5 mm; operculum hemispherical, obtusely conical, striate-costate with some ribs continuing onto the obconical-pyriform torus. *Anthers* versatile, ± basifixed, obovoid with cells distinct, opening by longitudinal slits. *Fruit* borne on pedicel 1-2 mm long, torus obconical-pyriform, 5-7 x 5-8 mm, tapered towards the base, weakly costate-striate; disc narrow, sloping inwards, flat or slightly raised; valves 4(5), level with or just exerted above rim, *seeds* flattened-convex, broadly ovate-acute in outline reddish-brown, glossy, shallowly sculptured into about 20 rows of polygonal areolae, covered by plug which is released at dehiscence. (Fig. 1.)

As flowers were present on some individuals in April it is likely to be an autumn flowering species.

*Distribution* (See Fig. 2)



Fig. 1 *Eucalyptus calcareana* C.D. Boomsma. a, anther, X 25; b, large fruit from Nundroo; c, seeds, X 7; d, enlarged segment of dorsal seed surface; e, plug from apex of capsule; f, seedling 100 days old. (Illustration from holotype except b, which is from Nundroo, F. Mason, 1974.)



Current records indicate that this species flourishes as a tree on the lower slopes of sheltered, linear depressions or narrow valleys westwards from near Penong spaced at irregular intervals along the fringe of the Nullarbor Plain in its south-eastern sector. On the comparatively drier more exposed mid to upper slopes, and occasionally the crests, it is reduced to a mallee and is associated there with one or more of *E. yalatensis* C.D. Boomsma, *E. oleosa* F. Muell. ex Miq. and *E. gracilis* F. Muell.

#### *Selection of Specimens examined*

SOUTH AUSTRALIA: 5 km W. of Penong, 31° 56' S, 132° 50' E, 10.3.77, *G. C. Cornwall* (AD); 90 km along Eyre Highway W. of Nundroo, 31° 15' S, 131° 25' E, 10.3.77, *G. C. Cornwall* (AD); 68 km along Eyre Highway W. of Nundroo, 31° 18' S, 131° 41' E, 10.3.77, *G. C. Cornwall* (AD); 22 km along Eyre Highway W. of Nundroo, 31° 37' S, 132° 03' E, 11.3.77, *G. C. Cornwall* (AD); Nundroo, 31° 46' S, 132° 21' E, September 1974, *F. Mason* (Woods and Forests Department, Adelaide); near head of Gt Aust. Bight, 31° 25' S, 131° 18' E, 16.6.76, *G. C. Cornwall* (Woods and Forests Department, Adelaide); 5 km W. of Yalata, 31° 27' S, 131° 38' E, May 1973, *B. Lay* (AD, Department of Agriculture and Fisheries); 130 km W. of Cook Road X Eyre Highway, 31° 28' S, 129° 34' E, 2.4.77, *M.I.H. Brooker* (AD).

WESTERN AUSTRALIA: Eucla Pass, 31° 41' S, 128° 53' E, 2.4.77 *M.I.H. Brooker* (AD).

#### *Discussion*

Westwards from the recorded distribution in South Australia, it appears to be replaced in sub-coastal areas of Western Australia by *Eucalyptus conglobata* (R.Br. ex Benth.) Maid. and *E. fraseri* (Brooker) Brooker on uplands, viz. Fraser Range.

Gardner (1960) regarded *E. pileata* as having a constant mallee form, a costate operculum which is wider than the smooth torus, lustrous leaves, and a fruit which "is never deeply ribbed or corrugated". However, tree forms to 15 m high have been observed in woodland with *Eucalyptus dundasii* Maid. by P. Lang (pers. comm.).

In contrast, *E. calcareana* usually has a tree form (to 10m high), often being the tallest and most shapely tree in the region, although mallee forms occur on shallow rocky and exposed sites. The adult leaves are coarser, sage-green, scarcely shining or glossy when fresh, and with a length-breadth ratio of (6-) 7-(9) compared with (5-) 6-(9) for the more variable leaves of *E. pileata*. As shown in Fig. 1(b), the torus of the fruit is markedly costate and the operculum may not be regularly wider than the torus.

The lustrous red-brown seeds place *E. calcareana* in the series *Dumosae* of Pryor and Johnson (1971), with an affinity to *E. pileata* and *E. fraseri*. Both *E. fraseri* and *E. conglobata* have adult leaves which are coarse, often wider to 3 cm, a length-breadth ratio of 5-(6), and consistently larger buds and fruits.

Because of the close relationship of *E. calcareana* to some forms of *E. pileata*, subspecific status might be thought more appropriate, but its distinctions are sufficiently clear for it to be recognised as a separate species.

The specific name alludes to its presence on soils associated with limestone.

#### 2. *Eucalyptus sparsa* C.D. Boomsma, sp. nov.

Arbor, interdum unicaulis, parva, plerumque multicaulis lignotubiferque, robusta, usque ad 6 m alta; cortice in 2/3 partibus infernis trunci persistenti, cinereo usque cinereo-brunneo, aspero, ex laciniis brevibus latisque amplitudine variabili, 5-10 x 2-5 cm constanti; medulla guttas olei interdum continenti. *Plantula* dierum ducentorum *cotyledonibus* parvis, ad apicem vix lobatis incisurisve, *foliis* decussatis, petiolatis, crassis, pare primo anguste oblongo-lanceolato, plano, paribus distalibus latioribus usque ovatis, superne concavis, nervatura manifesta, vix reticulata, guttis olei paucis obscurisque, paribus saltem primis septem ravidio-viridibus, distalibus viridibus nitidis. *Folia* adulta alterna, petiolo manifesto 1.5-2.5 cm longo, lamina lanceolata usque ovato-lanceolata ovatave, 5-12 x 1.5-3.5 cm, plerumque usque ad 4 plo longiore quam latiore, apice acuto, base rotundata, in vivo nitida viridi, vix flexibili, in sicco plerumque flavo-viridi rigidissima; costa in paginis ambabus manifesta prominentique; nervatura manifesta, grosse reticulata, vena intramarginali 1.5-3.5 mm a margine remota; guttis olei paucis obscuris. *Inflorescentiae* paniculatae, terminales axillaresque; pedicellis brevibus. *Alabastra* operculo late conico-hemispherico, plerumque toro cupulato-hemispherico multo brevior. *Fructus* in pedicello 1.5-2.5 mm longo, robusto tereti, in sicco compresso vel ± angulato portatus, cupulato-hemisphericus, longitudine latitudinem aequanti, 4.5-6 x 4.5-6 mm, pariete lato, saepe orificio parum constricto; valvis parvis, (3)4(5), rimam aequatis vel infra *seminibus* depressis, convexis, in ambiut late ovato-acutis, 1.3-1.7 x 0.9-1.2 mm, ravidio-brunneis, in ca. 15 series areolarum 4-6 lateribus non profunde sculptis.

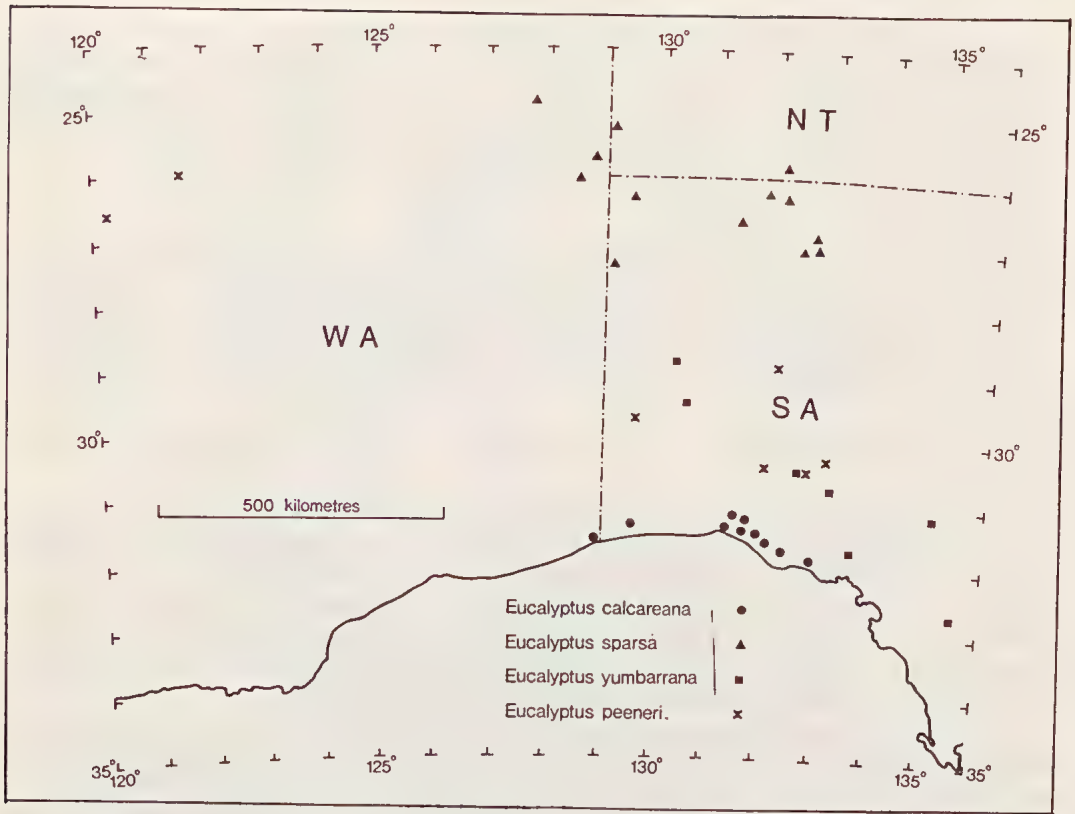


Fig. 2. Distribution map.

*Holotypus*: Betty's Creek Gorge, Everard Ranges, 26° 57' S, 132° 39' E, 4.10.74, C.D. Boomsma (AD). *Isotypus* (Woods and Forests Department, Adelaide).

Sometimes a small tree, but usually a robust mallee to 6 m high; bark persistent, grey to greyish-brown, rough on lower two thirds of trunk, composed of short broad flakes of variable size, 5-10 x 2-5 cm; pith occasionally containing oil glands. *Seedling* (at 200 days old): *cotyledons* small, weakly lobed or notched at apex; *leaves* decussate, petiolate, thick, first pair narrow oblong-lanceolate, flat, subsequent pairs wider to ovate, concave from above, with venation distinct, scarcely reticulate, with oil glands few and obscure, at least the first seven pairs greyish-green, subsequent pairs shining green. *Adult leaves* alternate, with distinct petiole 1.5-2.5 cm long, lamina 5-12 x 1.5-3.5 cm, length: breadth ratio usually less than 4:1, lanceolate to ovate-lanceolate or ovate, apex acute, base rounded, glossy mid-green and scarcely flexible when fresh, usually yellow-green and strongly rigid when dried; midrib prominent and raised on both surfaces; venation distinct, coarsely reticulate, with intramarginal vein distant from margin by 1.5-3.5 mm; oil glands few and obscure. *Inflorescences* paniculate, both terminal and axillary; pedicels short. *Buds* with operculum broadly conical-hemispherical, generally much shorter than the cupular-hemispherical torus. *Fruit* borne on stout pedicel 1.5-2.5 mm long, terete, compressed or  $\pm$  angular when dried; *torus* cupular-hemispherical, as long as broad, 4.5-5 x 4.5-6 mm, thick-walled, often with slightly constricted orifice; valves small, (3)4(5), lower than or level with rim; *seeds* flattened-convex, broadly ovate-acute in outline, 1.3-1.7 x 0.9-1.2 mm, greyish-brown, shallowly sculptured into about 15 rows of 4-6-sided areolae. (Fig. 3.)



Fig. 3. *Eucalyptus sparsa* C.D. Boomsma. a, inflorescences; b, seedling 150 days old; c, branchlet; d, anther, X 25 e, seed, X 15. (Illustration from holotype except a, d and e, which are from Lameroo, *ex cult.*)



### Distribution (See Fig. 2)

The distribution of this species ranges from the summit of Mt Woodroffe and other rocky mountains and hills to favoured 'run-on' plains at the base of ranges in the Desert Province as follows: *Western Australia* Rawlinson and Blackstone Ranges; *Northern Territory* Mulga Park Pastoral Station; *South Australia* Everard, Tompkinson, Mann, Musgrave, Birksgate Ranges, Patricia Hills, and Cheesman Peak.

### Specimens examined

**SOUTH AUSTRALIA:** Summit of Mt Woodroffe, 26° 15' S, 131° 51' E, 18.9.55, *J.L. Johnson* (Woods and Forests Department, Adelaide); Patricia Hills, 27° 22' S, 129° 10' E, April 1966, *R.B. Major*, (Woods and Forests Department, Adelaide); Victory Bore, Everard Range, 27° 04' S, 132° 30' E, 9.9.76, *D. Morgan* (Woods and Forests Adelaide); Tompkinson Range, 26° 20' S, 129° 30' E, 24.9.55, *J.L. Johnson* (Woods and Forests Department); Bull's Hill, Currie Creek Basin, 26° 40' S, 131° 25' E, 1.10.55, *J.L. Johnson* (Woods and Forests Department, Adelaide); Everard Range, 27° 02' S, 132° 45' E, January 1973, *D.E. Symon* (ADW).

**NORTHERN TERRITORY:** Mulga Park Station, 24° 50' S, 132° 45' E, 1960, *J.B. Cleland* (AD), 5.8.1957, *N. Forde* (NT); 32 km SSW. Docker R. settlement, Petermann Range, 25° 09' S, 129° 06' E, 4.11.1970, *C.R. Dunlop* (NT).

**WESTERN AUSTRALIA:** Blackstone Range, 26° 02' S, 128° 23' E, 8.1.73, *D.E. Symon* (ADW), Woods and Forests Department, Adelaide); 47 km NNW. Wingelinna, 25° 42' S, 128° 45' E, 30.10.1970, *C.R. Dunlop* (NT).

### Discussion

The brief description in Black (1952) of *E. largiflorens* F. Muell. var. *xanthophylla* Blakely (1934) agrees quite well with that of *E. sparsa* but is misapplied. *E. largiflorens* var. *xanthophylla* has been listed as synonymous with *E. normantonensis* Maiden and Cambage by Pryor and Johnson (1971).

As the broad leaves of *E. sparsa* are lustrous green when fresh and lustrous yellowish and rigid when dried, these leaf characters are generally sufficient to separate *E. sparsa* from the other two northern boxes in South Australia, *E. microtheca* F. Muell. and *E. intertexta* R.T. Baker, which have narrower, dull and flexible leaves. This coarse-leaved box is referable to the series *Largiflorentes* of Pryor and Johnson (1971) or subseries *Subplatyphyllae* of Blakely (1934). Its robust mallee habit and wide, persistent, intermediate, broad-lanceolate leaves suggest that it could be placed near *E. behriana* F. Muell.

It most frequently grows on coarse-textured well-drained soils, on hill slopes or on plains receiving 'run-on' drainage from rocky slopes in contrast with *E. intertexta* and *E. microtheca*, which are closely associated with drainage channels, creeks and waterways.

The specific name refers to its sparse occurrence in South Australia.

### 3. *Eucalyptus yumbarrana* C.D. Boomsma, sp. nov.

Arboar, vel multicaulis lignotubiferque effusa usque robusta, vel unicaulis parva umbrosa, interdum ramis cernuis; medulla guttas olei carenti. *Plantula* dierum ducentorum *cotyledonibus* in duos lobos lineares incis, *foliis* decussatis, paribus saltem 12 primis sessilibus vel fere ita, pare primo lineari, paribus ca. 8 distalibus latioribus usque ellipticis, ultimis ovato-lanceolatis decurrentibusque. *Folia adulta* saepe foliis praematuris latis paucioria, alterna, petiolo angulato-compresso, 2.0-3.5 cm longo, lamina crassa, lanceolata, 10-12 x 2.0-2.4 cm, falcata, base plerumque rotundata, interdum attenuata, apice longo, acuminatoque, in unco manifesto terminanti, hebeti pallido-viridi sed saepe in sicco pallido-flavovirenti. *Inflorescentiae* umbellae axillares 7(9) floribus; pedunculo 6-11 mm longo, robusto, angulato-compresso, apice dilatata; pedicellis 3-5 mm longis, angulatis, ad basem per longitudinem totam attenuatis. *Alibastr*a operculo rostrato, toro longiore et ad juncturam commissuralem latiore; stylo in operculum extensissimo. *Stamina* manifeste flava, antheris versatilibus, parvis, bilobatis, ellipsoideo-globosis, a poris orbicularibus dehiscentibus. *Fructus* in pedicello interdum subangulato, ad basem per longitudinem totam attenuato portatus; *toro* hemispherico-suburceolato, plerumque paulo longiore quam latitudinem, 0.9-1.1 x 0.8-0.9 cm, orificio parum constricto; pariete lato, robusto; valvis subulatis, fragilibus, exsertis sed saepe non nisi basibus remanentibus; *seminibus* depressis, convexis, in ambitu late ovato-acuminatis usque oblongo-obtusis, ravidis-brunneis, splendidis, in ca. 20 series aerolarum polygonalium non profunde sculptis.

*Holotypus*: South Australia, Yumbarra Conservation Park, 31° 45' S, 133° 35' E, 17.6.77, *T. Dennis* (AD 97726343). *Isotypus* (AD 97726344).



Fig. 4. *Eucalyptus yumbarrana* C.D. Boomsma. a, branchlet; b, fruit; c, seedling 200 days old; d, bud at anthesis; e, anther, X 30; f, seed, X 15. (Illustration from holotype.)



A straggly to robust mallee or small umbrageous tree, sometimes with drooping branches; pith lacking oil glands. *Seedling* (at 200 days old): *cotyledons* bisected into two linear lobes; *leaves* decussate, at least first 12 pairs sessile or nearly so, first pair linear, subsequent pairs wider to elliptic for about 8 pairs, finally ovate-lanceolate and decurrent. *Adult leaves* often outnumbered by broad pre-adult leaves, alternate, with petiole angular-flattened, 2.0-3.5 cm long; lamina thick, lanceolate, 10-12 x 2.0-2.4 cm, falcate, base usually rounded, sometimes attenuate, apex long and tapered, ending in a distinct hook, dull light green but often drying light yellowish-green. *Inflorescences* axillary umbels of 7(9) flowers; peduncle 6-11 mm long, robust, angularly-compressed and flattened, with expanded apex; pedicels 3-5 mm long, angular, narrowed towards base over whole length. *Buds* with operculum beaked, longer than the torus and wider than it at the commissural junction; style extended well into operculum. Stamens distinctly yellow, anthers versatile, small, bilobed, ellipsoid-globose, opening by large orbicular pores. *Fruit* borne on sometimes + angular pedicel tapering towards base over whole length; torus hemispherical-suburceolate, usually just longer than wide, 0.9-1.1 x 0.8-0.9 cm, slightly constricted at orifice; wall thick, robust; valves subulate, fragile, exserted, but often with only the bases remaining; *seeds* flattened-convex, broadly ovate-acuminate to oblong-obtuse in outline, greyish-brown, lustrous, shallowly sculptured into about 20 rows of polygonal areolae. (Fig. 4.)

*Distribution* (See Fig. 2)

This species is prominent in mallee patches in arid lands in and about Yumbarra Conservation Park. Its recorded distribution extends from near the western end of the Gawler Ranges (Hiltaba) to near the Western Australian border north of Lake Wyola, a distance exceeding 400 km.

#### *Specimens examined*

SOUTH AUSTRALIA: Yumbarra Conservation Park, 31° 45' S, 133° 35' S, 10.9.74, F. Mason (Woods and Forests Department); James, 30° 45' S, 133° 10' E, 8.6.70, J.L. Johnson and S. Reid (AD, Woods and Forests Department); Lake Wyola North, 28° 51' S, 130° 20' E, 27.5.70, J.L. Johnson and S. Reid (Woods and Forests Department); Yaranna Hills, 32° 40' S, 135° 35' E, 10.10.72, D.E. Symon (ADW); Yumbarra C.P., 31° 45' S, 133° 35' E, 26.8.76, G.W. Anderson (AD); Eldodeh R.H., Yumbarra, 31° 45' S, 133° 35' E, 24.10.70, B. Lay (AD, Agriculture and Fisheries Department); 35 km N of Hiltaba, 31° 10' S, 135° 05' E, 9.9.72, A.G. Spooner (AD); Vokes-Cook, 29° 25' S, 130° 30' E, 2.6.70, J.L. Johnson and S. Reid (AD); Barton, 30° 30' S, 132° 40' E, 17.9.26, E.H. Ising (AD).

#### *Discussion*

This species has obvious affinities with both *E. socialis* F. Muell and *E. flocktoniae* Maiden. From the former it differs in having broader, thicker, often larger adult leaves, longer petioles to 3.5 cm and larger, thick-walled, truncate fruit, which can have a rugose surface. From *E. flocktoniae* it differs in having broad dull leaves, and large thick-walled fruit which can have a rugose surface. There is little doubt that it belongs to the series *Oleosae* near *E. socialis* in the classification of Pryor and Johnson (1971).

Associated mallees in open scrub patches include *E. incrassata* Labill. and *E. foecunda* Schau.

The specific name refers to the locality of collection of the holotype.

4. ***Eucalyptus peeneri* (Blakely) Pryor et Johnson ex C.D. Boomsma, stat. et comb. nov.**  
*Basionym:* *Eucalyptus oleosa* F. Muell. ex Miq. var. *peeneri* Blakely, A key to the eucalypts (1934) 270.

*Types:* South Australia, Barton [30° S 133° E], *E. Ising* 1372, Sept. 1920 (NSW, lecto; dupl. in AD, FRI, G, K, PERTH, US). East of Ooldea, *H. Deane s.n.*, June 1909 (NSW).

This elusive, poorly collected mallee was briefly described by Blakely (1934) as "spreading, 1.3 m high, with prostrate or erect stems", and "bark light grey and rough to the small branches". In the absence of a holotype, a lectotype is chosen from the syntype





Fig. 5. *Eucalyptus peeneri* (Blakely), Pryor et Johnson ex C.D. Boomsma a, branchlet b, buds; c, intermediate leaf; d, seedling 100 days old; e, seed, X 15; f, branchlet; g, anther, X 25. (Illustrations a and b from syntypes; of c, d, e, f, and g from Eldodeh Rockhole, B. Lay 490.)

specimens, NSW 133736-7, which were collected from east of Ooldea and eastwards to Barton, by H. Deane, 1909, and E. Ising, 1920, respectively. Only a few collections, housed in AD, have been made in recent years from Western Australia, at Lorna Glen P.L., 26° 00' S 121° 31' E; Wiluna, 26° 35' S 120° 15' E; and N.W. of South Australia, at Serpentine Lake, 30° 20' S 133° 05' E; Maralinga, 28° 35' S, 132° 10' E; N.W. Eldodeh Rockhole, 30° 20' S 133° 05' E; and 103 km N of Hughes 29° 45' S 129° 35' E.

The seedlings which were grown from seed collected from Eldodeh Rockhole, South Australia, by B. Lay had bisected cotyledons, two pairs of linear leaves and at least eight to ten pairs of narrow-oblong leaves, variously arranged, alternate, opposite or adjacent as in *E. oleosa*. They merged into linear, intermediate leaves 6-7 cm long and were subsequently replaced by ashy-grey, oblong-lanceolate adult leaves. In the latter, oil glands are numerous and conspicuous, venation is obscure, and the size range is 5-7 x 0.8-1.0 cm. The fruit which is sub-globular, 0.7-0.8 cm, with a narrow rim and constricted orifice, has fragile, subulate, exerted valves and a terete pedicel 2-3 mm long, which agrees well with the syntypes. (Fig. 5.)

### Discussion

There is an obvious similarity between seedlings of *E. oleosa* F. Muell. ex Miq. and those of its var. *peeneri* Blakely, but an equally obvious divergence is exhibited in the long, linear intermediate leaves of *E. oleosa* var. *peeneri* compared with the elliptical, narrow-lanceolate leaves of *E. oleosa* var. *oleosa*. The differences in the intermediate and adult leaves justify the elevation of var. *peeneri* to a species level as proposed by Pryor and Johnson (1971). If the few records of isolated occurrences of *E. peeneri* properly represent its distribution in southern Australia, then it can be concluded that it is a relict taxon barely surviving in a sufficiently large area to withstand further adverse environmental changes.

During four years in cultivation, it has developed a shrubby habit comprising some twenty stems which have reached 1.4 m high, and has also produced buds and fruits which are in reasonable agreement with those of the syntypes.

### Acknowledgements

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During recent years many seedlings have been grown by the Nursery at the Adelaide Botanic Gardens by kind permission of the Director, Mr T.R.N. Lothian.

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